

## REMARKS

This is in response to the Office Action of 17 December 2003. Claims 1-5 and 8-11 are pending in the application, and Claims 1-5 and 8-11 have been rejected.

By this amendment, Claim 9 has been cancelled, and Claims 4, 8, and 10 have been amended.

No new matter has been added.

In view of the amendments above and remarks below, Applicant respectfully requests reconsideration and further examination.

### About The Invention

The present invention relates generally to extending battery life in a battery-powered radio; and relates more particularly to providing both a received signal strength indicator and a signal quality indicator, and using both of these metrics in determining when to de-energize the receiver portion of a radio. By combining both the received signal strength indicator (RSSI) and the signal quality indicator, the present invention is able to reduce the average "on time" of the receiver. Such an arrangement is referred to herein as a two stage carrier detection scheme. A power management arrangement with the two stage carrier detection scheme of the present invention operates to de-energise the receiver even though RSSI indicates a received signal is present if the signal quality indicator shows that the signal is not decodable.

### Rejections under 35 USC 103(a)

Claims 1-5 and 8-11 have been rejected under 35 USC 103(a), as being unpatentable over Besharat, et al., (US Patent 6,219,540) in view of Ichikawa, et al., (US Patent 4,506,386), and further in view of Gardener, et al. (6,058,289).

Claim 9 has been cancelled, thereby rendering the rejection thereof moot.

With respect to Claims 1-3, for at least the reasons set forth below, Applicants

respectfully traverse the rejections under 35 USC 103(a) and request that these rejections be withdrawn.

Independent Claim 1, recites the limitations of a two stage carrier detection scheme, and clearly recites that the receiver is de-energised under the condition that the RSSI shows that a signal is present and the signal quality indicates that it is not decodable.. As explained and illustrated in Applicants' specification and figures, a power management arrangement based upon a two stage carrier detection scheme results in reduced power consumption as compared to conventional power management based upon single stage carrier detection. Applicants' two stage carrier detection uses both received signal strength and signal quality determinations in making power management decisions. Applicants' have shown that due to the false carrier detections based on RSSI alone, and due to the relatively long time required for performing a signal quality analysis, that combining the two approaches, even though more complex, results in power savings over conventional approaches to battery power savings in radio equipment, because the average on time of the receiver is thereby reduced. As set forth in Applicants' Claims, the receiver is powered down to under the circumstance wherein the RSSI indicates a signal is present, but a signal quality measurement indicates that the signal cannot be successfully decoded. This is different than the teachings of the cited references.

Besharat, et al., disclose a single stage carrier detection scheme (signal quality detector 154). Similarly, Ishikawa, et al., disclose a single stage carrier detection scheme (decoder 4). These single stage carrier detection schemes are different from Applicants' claimed two stage carrier detection. Applicants' claimed two stage carrier detection power management scheme involves both the received signal strength and the ability to successfully decode the incoming signal (i.e., signal quality) to make the determination as to whether to power down the receiver.

The Examiner has additionally cited Gardener, et al., however this reference actually teaches away from Applicant's claimed invention. More particularly, Gardener, et al., teach that, under the circumstance where the signal quality is degraded, that the receiver should continue to operate and scan for a different

forward channel with appropriate channel characteristics. This directly contradicts Applicant's claimed invention in which these circumstances result in the receiver being de-energised.

There does not appear to be a teaching of Applicants' claimed two stage carrier detection power management arrangement or method in the cited references, nor does there appear to be a suggestion or motivation to produce the claimed invention in those cited references.

With respect to Claims 4-5 and 8, and 10-11, Applicants have amended independent Claims 4 and 8 to make clear that the receiver is de-energised in the circumstance that an acceptable RSSI level is obtained but an acceptable signal quality level is not obtained. Claim 10 has been amended to depend from Claim 8, rather than from cancelled Claim 9. Support for these amendments may be found in the specification at pages 5-6.

For at least these reasons set forth above in connection with Claims 1-3, Applicants' respectfully assert that the Claims 4-5 and 8 and 10-11 have overcome the rejections under 35 USC 103(a) in view of Besharat, et al., Ishikawa, et al., and Gardener, et al.

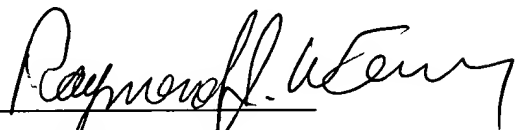
### Conclusion

All of the rejections in the outstanding Office Action of 17 December 2003 have been responded to, and Applicants respectfully submit that the pending Claims 1-5 and 8-11 are now in condition for allowance.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

By



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